

#18/Response
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UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. no. 09/528,788

Filed: March 17, 2000

Examiner: Armando Rodriguez

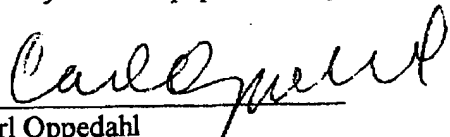
Art unit: 2828

Conf. no. 5723

Attorney docket no. FREIP030US

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Carl Oppedahl

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RESPONSE TO OFFICE ACTION

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5 This paper responds to the Office Action dated December 3, 2003.

In the office action, the Examiner rejects the claims as being unpatentable over a combination of U.S. patent No. 5,987,049 to Weingarten et al. ("Weingarten") and U.S. patent 6,363,090 to Wintner et al. ("Wintner").

10 Weingarten discloses a passively mode-locked solid-state laser. Wintner discloses a thin-disk laser with means for Kerr lens mode locking.

15 It is well known that both passive mode-locking and thin-disk lasers as such has been known for some time. However, the combination is non-obvious, since the purpose of thin-disk lasers (namely a capability of working with high power) and properties of saturable absorber devices comprising semiconductors seem to contradict each other. Therefore, the person skilled in the art does not have any motivation to combine the teachings of Weingarten and of Wintner. In fact, Wintner's disclosure itself confirms this fact. In column 2, lines 20-27, Wintner writes:

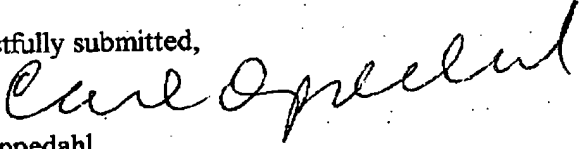
5 ... Rather, further progress was made with semiconductor-based saturable absorbers (SESAMs), which, however, have proven to be too short-lived for high-power laser systems with respect to their utility at powers over a few 100 mW. The non-linear optical methods are preferable, since they can be power-scaled by means of corresponding focusing of the beam and are not based on direct absorption of radiation.

10 Therefore, it is not true that it would have been obvious to a person skilled in the art at the time the invention was made to combine the laser system of Weingarten with Wintner's since the skilled person would judge from the cited passage in column 2 that combining these teachings is not suitable for obtaining a short-pulse thin-disk laser. Rather, the person skilled in the art would gather from Wintner's teaching that it is better to use non-linear optical methods such as Kerr Lens Modelocking (KLM) for mode-locking thin-disk lasers. Wintner thus teaches away from such a combination.

Rather, the invention is a truly non-obvious arrangement as defined in the independent claims.

Reconsideration is again respectfully requested.

Respectfully submitted,


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